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Directing Relief Efforts and Creating Jobs through Text Messaging

Innovations Case Commentary:
Inveneo

Immediately after a disaster such as the earthquake that struck Haiti, it is natural to think of the necessities: food, water, sanitation, housing. But Inveneo's experience demonstrates how a new factor has entered the equation: access to the Internet and other communications technologies. These services are now a critical component of disaster recovery—just as they will be a critical part of Haiti's long-term rebuilding process. In our work with Haiti over the last seven months, we have seen firsthand how Inveneo's services can save lives.

After the earthquake, international technology nonprofits, U.S. government officials, Haitian telecommunications companies, and Silicon Valley start-ups banded together to deploy an SMS-based emergency reporting channel for the affected population. The timeline of the collaboration was intense; the first four days of the group Skype chat fills a 300-page document.

On the day of the earthquake, crisis mapping organization Ushahidi launched a platform that allowed reports to be processed through email, web form, Twitter, or major news outlets. In a country where 30 times more people have access to mobile phones than to land lines or the Internet, the largest available channels for communicating needs were mobile phones and SMS. Within 24 hours of the quake, FrontlineSMS:Medic, Ushahidi, the U.S. State Department, and Digicel, Haiti's largest telecommunications company, were working to establish a system to organize a flood of text messages from the ground.

On January 16th, working with the Thomson Reuters Foundation and InSTEDD, the Project 4636 system was launched and word of the free service was spread to community radio stations throughout Haiti: "Report emergencies and missing persons by texting to 4636." Later outreach asked those texting to include their need and location. Once an SMS was received by the mobile operator, it was transferred to a website where roughly 1,000 members of the Haitian diaspora translated, mapped, and categorized every message. These structured reports were

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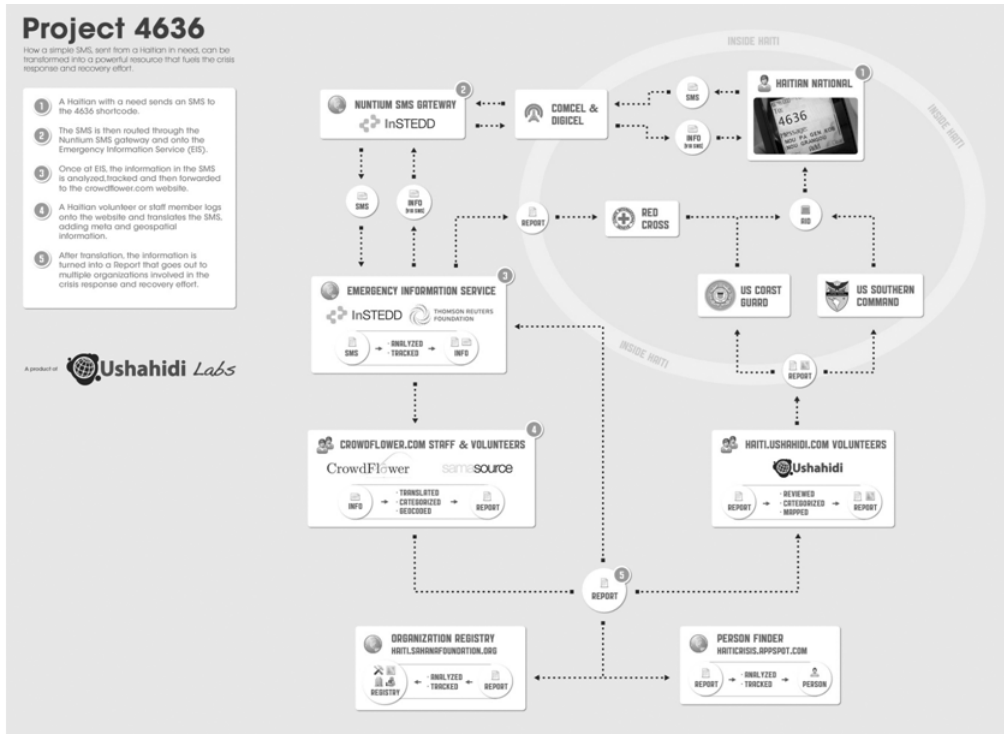*Leila Chirayath Janah is Founder and CEO of Samasource.*

Figure 1. Project 4636.

passed to a team of students at the Fletcher School at Tufts University near Boston, who flagged and expedited messages that were actionable. These reports landed in a number of destinations, including feeds viewed directly by first responders, Ushahidi's mapping platform, Google's Person Finder application, and the Sahana Software Foundation's database. Volunteers from around the world helped process the stream of messages.

Using this feed, responders and relief organizations took action. The majority of early messages were requests for search and rescue or emergency care, or missing person reports; after one week, messages shifted to reports of general needs, such as shelter, food, and jobs. Marine Corps first responders noted, "We are using the project every second of the day to get aid and assistance to the people that need it most." Groups of people were pulled from the rubble after community members texted their locations. An urgent message about a woman bleeding out during labor was matched to coordinates, and a medical team helped with the delivery. We heard from clinics needing fuel to keep generators running and from hospitals offering use of empty beds. SMS reports led relief agencies to deliver food and water to an unmapped, temporary camp of 2,500 people. For the first few weeks, the volume of messages was small enough for volunteers to handle the entire load. As Project 4636 grew and thousands of messages arrived daily from the mobile operator, the original team began to look for a more scalable translation and cate-

Workers at the 1000 Jobs/Haiti-Samasource in Mirebalais.

gorization system. They contacted CrowdFlower, a crowd-sourcing company based in San Francisco, to host the translation process. Samasource, a nonprofit outsourcing firm, stepped in to provide training to a local Haitian workforce to meet the additional demand for translation services.

Samasource partnered with 1000 Jobs/Haiti, an affiliate of Partners in Health, and the U.S. State Department to train 50 people in Mirebalais, a rural community outside Port-au-Prince, in basic translation and tagging methods via CrowdFlower's web interface.

The biggest challenge we faced in the project's initial phase was setting up the center in Mirebalais with the right equipment. Inveneo, a nonprofit that specializes in delivering information and communications technology solutions in challenging environments, played an important role in reestablishing broadband connectivity for relief organizations following the earthquake. Saving Samasource and local partners time and many headaches, Inveneo included the necessary equipment in their re-supply shipment marked for express delivery. Without that swift and successful collaboration, the project in Mirebalais would have been significantly delayed.

Samasource purchased 25 Eee PC netbooks—small, inexpensive laptops with a long battery life—and received a grant from the U.S. State Department to pay for a satellite dish. After a month of trial and error, the local team settled on a shift structure that kept the center open for 12 hours per day for translation work. For many months, power outages and satellite issues kept the center from functioning

properly. In July, a team from Inveneo traveled to Mirebalais to conduct an IT audit and recommended some improvements to the setup after pinpointing problems with the satellite.

In addition to supporting Samasource staff by providing housing, Inveneo explored the creation of a microwave link from Port-au-Prince to Mirebalais, which would benefit surrounding communities in addition to the 1000 Jobs/Haiti center; its realization will depend on receiving further funding. The agile partnership between Inveneo and Samasource allowed the Mission 4636 system to evolve from a makeshift volunteer effort to a sustainable, job-creating system on an established micro-work platform.

When the initial volume of texts from 4636 decreased, Samasource workers completed other projects, including paid translation work for Google. The organization is now exploring partnerships with other nonprofits to scale the program that began with Project 4636.

After the earthquake, information and communication technologies filled new roles in emergency response, relief efforts, and long-term recovery. As witnessed by the digital work in Mirebalais, connectivity and technical support provided by Inveneo can create more such opportunities to help Haiti rebuild.